

Claims :

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1. A programmable logic controller comprising:
a single chip micro controller;
internal RAM that is internal to said single micro controller; and
internal re programmable read only memory that is internal to said single chip
micro controller, the internal re programmable memory being used to store a user
program for actualizing programmable logic controller functions.
 2. A programmable logic controller program for directing a programmable
logic controller, comprising:
a user program; and
system sequencing and coordination instructions necessary to operate said
programmable logic controller, wherein said user program and system sequencing and
coordination instructions are compiled together into a single executable firmware module
of said programmable logic controller, requiring no external operating system.
 3. A programmable logic controller system, comprising:
a program execution device having a re programmable memory and whose
function is limited to program execution of a programmable logic controller; and
a separable communication/programming device, which provides the
programmability function, wherein said communication/programming device provides in a
separable package all functions required for external communication and conversion of a
user program for controlling said programmable logic controller from symbolic form to
binary code, and loading of that code into said program execution device and wherein said
binary code is programmed into said re programmable memory of said program execution
device by direct manipulation of logic controls of said re programmable memory.
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